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| 09/289,507 | 04/09/1999 | PAUL DRZAIC | INK-039 | 8699 |

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EXAMINER

NGUYEN, JIMMY H

ART UNIT PAPER NUMBER

2673

DATE MAILED: 06/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/289,507

Applicant(s)

DRZAIC ET AL.

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-42, 51 and 54-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-42, 51, 54-65 and 68-79 is/are rejected.
- 7) ☒ Claim(s) 66 and 67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 04/01/2002. Claims 38-42, 51 and 54-79 are currently pending in the application, and an action follows:
2. It is noted that the cleaned version and the marked up version of claim 38 are not consistent.

Specification

3. The abstract of the disclosure is objected to because line 3 "these" should be changed to -three--. Correction is required. See MPEP § 608.01(b).

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Regarding to claim 40, when this claim is read together with claims 39 and 38, claim 40 recites a first capsule including white particles and black particles and a second capsule including black particles and a third plurality of particles having a second property visually different from white and black, so that there is no drawing illustrated for the invention as recited in claim 40 (see the 112, first paragraph rejection below).

Regarding to claim 63, when this claim is read together with claim 62, claim 63 recites a first capsule including white particles and red particles and a second capsule including green particles and blue particles, so that there is no drawing illustrated for the invention as recited in claim 63 (see the 112, first paragraph rejection below).

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Regarding to claim 64, when this claim is read together with claim 62, claim 63 recites a first capsule including white particles and yellow particles and a second capsule including cyan particles and magenta particles, so that there is no drawing illustrated for the invention as recited in claim 64 (see the 112, first paragraph rejection below).

Regarding to claim 68, when this claim is read together with claims 65 and 62, claim 68 recites a first capsule including white particles and black particles, a second capsule including third particles having a second optical property visually different from white and black and fourth particles having a third optical property, and a third capsule including fifth particles having a fourth optical property and black particles, so that there is no drawing illustrated for the invention as recited in claim 68 (see the 112, first paragraph rejection below).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 40, 63, 64 and 68 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Regarding to claim 40, when this claim is read together with claims 39 and 38, claim 40 recites a first capsule including white particles and black particles and a second capsule including black particles and a third plurality of particles having a second property visually different from white and black, so that the application does not disclose the invention as recited in claim 40.

Therefore, this claim is rejected for the reason as set forth above.

Regarding to claim 63, when this claim is read together with claim 62, claim 63 recites a first capsule including white particles and red particles and a second capsule including green particles and blue particles, so that the application does not disclose the invention as recited in claim 63. Therefore, this claim is rejected for the reason as set forth above.

Regarding to claim 64, when this claim is read together with claim 62, claim 63 recites a first capsule including white particles and yellow particles and a second capsule including cyan particles and magenta particles, so that the application does not disclose the invention as recited in claim 64. Therefore, this claim is rejected for the reason as set forth above.

Regarding to claim 68, when this claim is read together with claims 62 and 65, claim 68 recites a first capsule including white particles and black particles, a second capsule including third particles having a second optical property visually different from white and black and fourth particles having a third optical property, and a third capsule including fifth particles having a fourth optical property and black particles, so that the application does not disclose the invention as recited in claim 68. Therefore, this claim is rejected for the reason as set forth above.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claim 41 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim above, when this claim is read together with independent claim 38, it recites two contrary limitations, "a second optical property visually different from white" (see claim 38, lines 4-5) and "the second optical property has a white visual appearance", so that it is not clear which limitation the Applicant means in claim above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 38-42, 51, 54-65 and 68-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al. (USPN: 5,961,804).

As per claims 38-42, 51, 57-59, 61-65, 68-71 and 75-78, Jacobson et al. disclose a display apparatus comprising an electrophoretic display element which comprises a plurality of same microcapsules (microcapsules or oil drops (150), col. 3, lines 66-67), corresponding to the claimed first, second and third capsules, each microcapsule (see fig. 2B) comprising a plurality of white microparticles (400) (corresponding to the claimed plurality of white particles) and a plurality of black microparticles (410); and a plurality of electrodes (electrodes 300, 310) adjacent the display element (fig. 4E), wherein at least one of the plurality of electrodes has a size different from others of the plurality of electrodes (fig. 5B), the display element presents a

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visual display in response to the application of an electrical to the microcapsule (col. 9, lines 3-9), and a white visual display is provided by at least the first plurality of white particles (400) (see fig. 4E and the accompanying text). Jacobson et al. further teach another embodiment in which each of microcapsule (320) includes three different types of plurality of particles (particles 410, 610 and 620) and one type of a plurality of particles includes retroreflective glass spheres (620) for enhancing the brightness of a pixel (see fig. 6A, col. 12, lines 11-17). It would have been obvious to one skilled in the art to provide a plurality of the retroreflective glass spheres (620) in the microcapsules as shown in figure 2B because this would enhance the brightness of a pixel, as taught by Jacobson et al. (col. 12, lines 11-17). Accordingly, each of the first, second and third microcapsules comprises a plurality of white microparticles (400), a plurality of black microparticles (410) and a plurality of retroreflective particles (620).

Furthermore, Jacobson et al. disclose that the particles may be heterogeneous in terms of physical properties and/or colors of the displays (col. 3, lines 14-17). In this particular cases, the selection of the particular colors of the microparticles would have been an obvious matter of design choice, since such a modification would have involved a mere change in color of one type of microparticles, which depends upon on the characteristic of the display, e.g., a black and white display, a red and white display, a green and white display, or etc. Therefore, it would have been obvious to obtain the invention as specified in claims above.

Regarding to claims 54-56 and 72-74, Jacobson et al. teach the microcapsules further including the suspending fluid being substantially clear (col. 8, lines 35-36) or dyed (col. 12, line 62). Therefore, these claims are rejected for the reason as set forth above.

Regarding to claims 60 and 79, Jacobson et al. discloses that the front electrode (300) should be transparent and the rear electrode (310) may be selective (col. 8, lines 51-53). In other words, it would have been obvious to one skill in the art to recognize that Jacobson et al. obviously discloses the claimed invention as specified in claims above.

Allowable Subject Matter

11. Claims 66 and 67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the claimed invention is directed to an electrophoretic display device comprising an electrophoretic display element including capsules, each capsule including a plurality of particles. Each of dependent claims 66 and 67 identifies the uniquely distinct feature “a full electrophoretic display element comprises the first capsule including a plurality of white particles and a plurality of red particles (or cyan particles of claim 67), the second capsule including a plurality of white particles and a plurality of green particles (or magenta particles of claim 67), and the third capsule including a plurality of white particles and a plurality of blue particles (or yellow particles of claim 67), wherein a white visual display is provided by at least the first plurality of white particles”. The closest art, Jacobson et al., as described above, discloses a related full-color electrophoretic display device wherein white is provided by a process white, i.e., combining individual three red, green and blue microcapsules (figs. 6A and 6B, col. 12, lines 5-11), either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Response to Arguments

13. Applicants' arguments filed 04/01/2002, have been fully considered but they are not persuasive because as follows:

Regarding to the rejections of claims 38-42, 51 and 54-60, applicants' argument filed "Applicants respectfully submit that Jacobson fails to teach or suggest a multichromatic electrophoretic display element comprising a first capsule including a first plurality of white particles ... wherein a white visual display is provided by at least the first plurality of white particles, ... by a process white", page 7, examiner disagrees because (1) Jacobson et al. obviously teach a white visual display being provided by at least the first plurality of white particles (400) (see fig. 4E and the accompanying text), (2) the disclosure on page 5 of Jacobson, i.e., the display element presents a white visual display by a process of individual three red, green and blue particles, is just one of embodiments, which is not used in the rejections above, (3) these claims, especially independent claim 38, do not fully recite a full-color electrophoretic display element comprising a first capsule including a plurality of white particles and a plurality of red (or cyan) particles, a second capsule including a plurality of white particles and a plurality of green (or magenta) particles, and a third capsule including a plurality of white particles and a plurality of blue (or yellow) particles, wherein a white visual display is provided by at least the first plurality of white particles, so as to make the claimed invention distinct from Jacobson et al., and (4) the rejections above is based on a combination of figs. 2B, 4E and 6A and the accompanying text, as mentioned in the rejections above.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN

June 13, 2002



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600